Patent Claims

1. A method of controlling a prosthesis such as an artificial limb, whereby electromyographic (EMG) signals are used to generate control signals for one or more prostheses such as artificial limbs and whereby the electromyographic (EMG) signals are received by one or more sets of electrodes dedicated to a source of electromyographic (EMG) signals.

2. Method according to claim 1, characterized in that said one or more sets of dedicated electrodes is/are placed subcutaneously, epimesially or intramuscularly.

3. Method according to claim 1 or 2, characterized in that said one or more sets of dedicated electrodes are implanted in a muscle or muscles.

4. Method according to one or more of claims 1 - 3, characterized in that the electromyographic (EMG) signals from said one or more sets of dedicated electrodes are transmitted to signal processing means by wireless transmission.

5. Method according to one or more of claims 1 - 4, characterized in that the electromyographic (EMG) signals from said one or more sets of dedicated electrodes are processed by signal processing means, whereby control signals for the artificial limb(s) are produced, said signal processing means utilizing a pattern recognition method.

6. Method according to one or more of claims 1 - 5, characterized in that the control signals of the artificial limb(s) are generated by utilizing an artificial neural network (ANN).

7. Method according to one or more of claims 1 - 6, characterized in that the electromyographic (EMG) signals are received by four or more sets of

dedicated electrodes placed in relation to at least four muscles or distinct functional muscle compartments.

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8. Method according to claim 7, c h a r a c t e r i z e d i n t h a t the method is utilized to control an artificial arm and/or hand and in that one or more sets of electrodes are placed in relation to at least the following muscles: Flexor Digitorum, Extensor Digitorum, Flexor Pollicis Longus and Extensor Pollicis Longus.

9. Method according to claim 7, c h a r a c t e r i z e d i n t h a t the method is utilized to control an artificial arm and/or hand and in that one or more electrodes are placed in relation to at least the following muscles: Flexor Digitorum, Extensor Digitorum, Flexor Pollicis Longus, Extensor Pollicis Longus, Pronator Teres, Supinator, Flexor Carpi Radialis and Extensor Carpi Radialis.

10. Method according to one or more of claims 1 - 9, c h a r a c t e r i z e d i n t h a t two or more sets of dedicated electrodes are placed in relation to at least one muscle, said two or more dedicated electrodes being placed in relation to different parts of said at least one muscle.

11. Method according to one or more of claims 1 - 10, c h a r a c t e r i z e d i n t h a t electroneurographic (ENG) signals are received by one or more separate sets of ENG-electrodes and that these ENG-signals are used as complimentary signals for generating control signals.

12. A system for controlling a prosthesis, such as an artificial limb, wherein electromyographic (EMG) signals are used to generate control signals for one or more artificial limbs and wherein the system comprises one or more sets of electrodes, each dedicated to a source of electromyographic (EMG) signals for receipt of the electromyographic (EMG) signals.

13. System according to claim 12, characterized in that said one or more sets of dedicated electrodes is/are configured for subcutaneous, epimesial or intramuscular placing.

14. System according to claim 12 or 13, characterized in that said one or more sets of dedicated electrodes is/are configured for an implantation in a muscle or muscles.

15. System according to one or more of claims 12 - 14, characterized in that the system comprises means for transmitting the electromyographic (EMG) signals from said one or more sets of dedicated electrodes to signal processing means by wireless transmission.

16. System according to one or more of claims 12 - 15, characterized in that the system comprises signal processing means for producing control signals for the artificial limb(s), said signal processing means utilizing a pattern recognition method.

17. System according to one or more of claims 12 - 16, characterized in that the system comprises an artificial neural network (ANN) for generating control signals for the artificial limb(s).

18. System according to one or more of claims 12 - 17, characterized in that the system comprises four or more sets of dedicated electrodes placed in relation to at least four muscles or functional distinct muscle compartments for receipt of electromyographic (EMG) signals.

19. System according to claim 18, characterized in that the system is utilized to control an artificial arm and/or hand wherein one or more sets of electrodes is/are placed in relation to at least the following muscles: Flexor Digitorum, Extensor Digitorum, Flexor Pollicis Longus and Extensor Pollicis Longus.

20. System according to claim 18, characterized in that the system is utilized to control an artificial arm and/or hand and in that one or more sets of electrodes is/are placed in relation to at least the following muscles: Flexor Digitorum, Extensor Digitorum, Flexor Pollicis Longus, Extensor Pollicis Longus, Pronator Teres, Supinator, Flexor Carpi Radialis and Extensor Carpi Radialis.

21. System according to one or more of claims 12 - 20, characterized in that the system comprises two or more sets of dedicated electrodes placed in relation to at least one muscle, and in that said two or more sets of dedicated electrodes is/are placed in relation to different parts of said at least one muscle.

22. Method according to one or more of claims 12 - 21, characterized in that the system comprises one or more sets of electroneurographic (ENG) electrodes for receiving electroneurographic (ENG) signals and in that these ENG-signals are used as complimentary signals for generating control signals.